FISH.
FISH & RICHARDSON

Fish & Richardson P.C.
1000 Maine Avenue, S.W.
Suite 1000
Washington, DC 20024
202 783 5070 main
202 783 2331 fax

Richard A. Sterba
Principal
sterba@fr.com
202 626 7714 direct

VIA EDIS

March 18, 2025

The Honorable Lisa R. Barton
Secretary to the Commission
U.S. International Trade Commission
500 E Street, S.W., Room 112
Washington, D.C. 20436

Re: *In the Matter of Certain Active Electrical Cables and Components Thereof, ITC Docket No. 337-TA-3814*

Dear Secretary Barton:

Pursuant to Commission Rule 210.14(a), please find enclosed for filing on behalf of Complainants Credo Semiconductor Inc. and Credo Technology Group Ltd. ("Credo" or "Complainants") the following documents in support of Complainants' Amended Complaint requesting that the Commission institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337:

1. One (1) electronic copy of Complainant's Amended Verified Complaint, pursuant to Commission Rules 210.8(a)(l)(i); and

2. One (1) electronic copy of the amended public exhibits to the Complaint, Exhibits 34-45.

By their Amended Complaint, Complainants withdraw public Exhibits 13, 23, 30, 51, 60, and 72. Complainants' Amended Complaint identifies these exhibits as withdrawn and removes all reference to them. More specifically, the Amended Complaint makes the following changes:

1. In the Index of Exhibits, Exhibits 13, 23, 30, 51, 60, and 72 are indicated as withdrawn and Exhibits 34-45 are indicated as amended.

2. In paragraph 52, the following language is removed: "Ex. 13 (Molex website at https://www.molex.com/en-us/products/connectors/high-speed-pluggable-io/active-electrical-cables-aec, listing Accused Molex Products for sale, providing Accused Product data sheets, displaying AEC podcast videos, and offering customer support);".

3. In paragraph 69, the following language is removed: "; Ex. 23 (Amphenol AEC chip partner article quoting Amphenol's CTO stating that Amphenol delivers the Accused Amphenol Products to its customers)".

4. In paragraph 78, the following language is removed: "Ex. 13 (Molex website at https://www.molex.com/en-us/products/connectors/high-speed-pluggable-io/active-

Marvell Semiconductor, Inc. - Ex. 1048, Page 000001
IPR2025-01220 (Marvell Semiconductor, Inc. v. Credo Technology Group Ltd.)

electrical-cables-aec, listing Accused Molex Products for sale, providing Accused Product data sheets, displaying video podcasts of Accused Molex Products, and offering customer support);" and "; Ex. 23 (Molex AEC chip partner article quoting Molex's Vice President and General Manager of copper solutions stating that Molex sells the Accused Molex Products to data centers)".

5. In paragraph 85, the following language is removed: "Ex. 30 (Article noting demonstrations of Accused Product occurring at DesignCon 2024 in Santa Clara, California);".

6. In paragraph 92, the following language is removed: "*see also* Ex. 72 (Article quoting Volex's senior data center product manager admitting Volex sells the Accused Volex Products);".

Please contact me with any questions regarding this submission. Thank you for your attention to this matter.

Respectfully submitted,

/s/ Richard A. Sterba

Richard A. Sterba
Counsel for Complainants Credo Semiconductor Inc. and Credo Technology Group Ltd.

UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.

In the Matter of **CERTAIN ACTIVE ELECTRICAL CABLES AND COMPONENTS THEREOF**	ITC Docket No. No. 337-TA-3814

AMENDED VERIFIED COMPLAINT
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED

COMPLAINANTS:

Credo Semiconductor Inc.
110 Rio Robles
San Jose, California 95134
Telephone: (408) 664-9329
legalnotices@credosemi.com

Credo Technology Group Ltd.
Ugland House
Grand Cayman, Cayman Islands KY1-1104
Telephone: (408) 664-9329
legalnotices@credosemi.com

PROPOSED RESPONDENTS:

Amphenol Corporation
358 Hall Avenue
Wallingford, Connecticut 06492
Telephone: (203) 265-8900

Molex, LLC
2222 Wellington Court
Lisle, Illinois 60532
Telephone: (800) 786-6539

TE Connectivity PLC
Parkmore Business Park West
Parkmore
H91VN2T Ballybrit
Galway, Ireland
Telephone: +353 91 378 040

Volex PLC
Unit C1 Antura
Bond Close
Basingstoke RG24 8PZ
Hampshire, United Kingdom
Telephone: +44 (0) 1256 442570

COUNSEL FOR COMPLAINANTS:

Ruffin B. Cordell
Richard A. Sterba
Brian J. Livedalen
Joseph M. Sinopoli
FISH & RICHARDSON P.C.
1000 Maine Ave., SW
Washington, DC 20024
Telephone: (202) 783-5070
Fax: (202) 783-2331

Daniel H. Wade
FISH & RICHARDSON P.C.
One Marina Park Drive, Suite 1700
Boston, MA 02210
Telephone: (617) 542-5070
Fax: (617) 542-8906

Kathryn A. Quisenberry
Jacqueline T. Moran
FISH & RICHARDSON P.C.
909 Fannin Street, Suite 2100
Houston, TX 77010
Telephone: (713) 654-5300
Fax: (713) 652-0109

TABLE OF CONTENTS

TABLE OF CONTENTS i

LIST OF EXHIBITS iii

LIST OF PHYSICAL EXHIBITS vi

LIST OF APPENDICES vii

I. INTRODUCTION 1

II. COMPLAINANTS 4

III. PROPOSED RESPONDENTS 4

IV. THE TECHNOLOGY AND PRODUCTS AT ISSUE 5

V. THE ASSERTED PATENTS 7

A. The ’233 Patent 7

1. Identification of the Patent and Ownership 7

2. Non-Technical Description of the Patented Invention 7

3. Foreign and Domestic Counterparts and Applications to the ’233 Patent 8

B. The ’252 Patent 8

1. Identification of the Patent and Ownership 8

2. Non-Technical Description of the Patented Invention 9

3. Foreign and Domestic Counterparts and Applications to the ’252 Patent 10

C. The ’111 Patent 10

1. Identification of the Patent and Ownership 10

2. Non-Technical Description of the Patented Invention 11

3. Foreign and Domestic Counterparts and Applications to the ’111 Patent 12

VI. UNFAIR ACTS OF PROPOSED RESPONDENTS 12

A. Amphenol Corporation 12

B. Molex, LLC 14

Marvell Semiconductor, Inc. - Ex. 1048, Page 000005

C. TE Connectivity PLC 16
D. Volex PLC 18
VII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE 19
A. Amphenol Corporation 19
B. Molex, LLC 26
C. TE Connectivity PLC 30
D. Volex PLC 39
VIII. CLASSIFICATION UNDER THE HARMONIZED TARIFF SCHEDULE 40
IX. LICENSEES 40
X. DOMESTIC INDUSTRY 40
A. Technical Prong 40
B. Economic Prong 41
1. Credo's Significant Investment in Plant and Equipment 42
2. Credo's Significant Investment in Employment of Labor or Capital 43
3. Credo's Investments Are Significant and Substantial 44
XI. RELATED LITIGATION 44
XII. REQUESTED RELIEF 45

Marvell Semiconductor, Inc. - Ex. 1048, Page 000006

LIST OF EXHIBITS

Exhibit	Description
1	Certified Copy of U.S. Patent No. 10,877,233
2	Certified Copy of U.S. Patent No. 11,012,252
3	Certified Copy of U.S. Patent No. 11,032,111
4	Certified Copy of Assignment Records of U.S. Patent No. 10,877,233
5	Certified Copy of Assignment Records of U.S. Patent No. 11,012,252
6	Certified Copy of Assignment Records of U.S. Patent No. 11,032,111
7	List of Foreign Counterparts
8	Credo HiWire AEC Overview Brochure
9	Credo Letter to Amphenol, Sept. 1, 2023
10	Amphenol Communications Solutions Website – Product Overview
11	Amphenol Communications Solutions – LinkedIn Post
12	Credo Letter to Molex, Sept. 1, 2023
13	Withdrawn
14	Microsoft QCT Mt Shasta Platform for FPGA and ASIC Farms at OCP Summit 2022 Article, Oct. 20, 2022
15	Molex's X Post, Nov. 1, 2022
16	Stills from Dongguan Molex Interconnect Co., Ltd. Video
17	Credo Letter to TE Connectivity, Sept. 1, 2023
18	Stills from TE Connectivity – 800G Active Cables (AOC, AEC, ACC) Trade Show Demo Video
19	TE Connectivity – QSFP-DD Cable Assemblies
20	Track Hyper | Broadcom beats NVIDIA: Shenzhen Woer Heat-shrinkable Material benefits from it, Dec. 16, 2024
21	Amphenol XGIGA Product Guide
22	Amphenol Website – Product Overview
23	Withdrawn
24	Amphenol, Molex, and TE Connectivity Displays and Product Photos
25	Amphenol Product Brochure
26	Panjiva U.S. Import Database Records
27	Molex – Product Brief
28	Point2 Collaborating with Molex to Develop 400G Active Electrical Cables, Mar. 7, 2023
29	Molex teams with Celestica & Innovium to deliver compelling Reference Designs, Apr. 30, 2021
30	Withdrawn
31	OIF – OFC/CMIS Live Demo OFC 2024
32C	**CONFIDENTIAL:** List of Licensees
33C	**CONFIDENTIAL:** Declaration in Support of Economic Domestic Industry
34	Amended Claim Chart Showing Amphenol's Infringement of U.S. Patent No. 10,877,233
35	Amended Claim Chart Showing Amphenol's Infringement of U.S. Patent No. 11,012,252
36	Amended Claim Chart Showing Amphenol's Infringement of U.S. Patent No. 11,032,111

Marvell Semiconductor, Inc. - Ex. 1048, Page 000007

Exhibit	Description
37	Amended Claim Chart Showing Molex's Infringement of U.S. Patent No. 10,877,233
38	Amended Claim Chart Showing Molex's Infringement of U.S. Patent No. 11,012,252
39	Amended Claim Chart Showing Molex's Infringement of U.S. Patent No. 11,032,111
40	Amended Claim Chart Showing TE Connectivity's Infringement of U.S. Patent No. 10,877,233
41	Amended Claim Chart Showing TE Connectivity's Infringement of U.S. Patent No. 11,012,252
42	Amended Claim Chart Showing TE Connectivity's Infringement of U.S. Patent No. 11,032,111
43	Amended Claim Chart Showing Volex's Infringement of U.S. Patent No. 10,877,233
44	Amended Claim Chart Showing Volex's Infringement of U.S. Patent No. 11,012,252
45	Amended Claim Chart Showing Volex's Infringement of U.S. Patent No. 11,032,111
46	Amphenol OSFP Copper Cable Assemblies Datasheet
47	Amphenol Communications Solutions Website – Amphenol OSFP Copper Cable Assemblies
48	Broadcom 2022 OCP Global Summit Press Release
49	Broadcom B-Connected Blog Post
50	Broadcom BCM87850 Product Brief
51	Withdrawn
52	IEEE 802.3ck Standard for Ethernet with 802.3ck Amendment appended thereto
53	Credo CRT55321 Product Brief
54	OSFP Specification
55	CMIS Specification
56	Molex AEC OSFP to OSFP Straight Cable with Broadcom BCM 87854 Re-Timer Product Brief
57	Molex OSFP Connector System Website
58	TE Connectivity OSFP Cable Assembly Website
59	TE Connectivity 112G Portfolio External Cabling Solutions Datasheet
60	Withdrawn
61	TE Connectivity OSFP Connectors and Cable Assemblies Website
62	Credo 800G OSFP AEC Product Specification
63	Molex Form 10-K SEC Filing
64	Panjiva U.S. Import Bills of Lading
65	Claim Chart Showing Complainants' Technical Domestic Industry with Respect to U.S. Patent No. 10,877,233
66	Claim Chart Showing Complainants' Technical Domestic Industry with Respect to U.S. Patent No. 11,012,252
67	Claim Chart Showing Complainants' Technical Domestic Industry with Respect to U.S. Patent No. 11,032,111
68	Credo Letter to Volex, Sept. 1, 2023
69	Volex High-Speed Copper Interconnect Solutions Brochure

Marvell Semiconductor, Inc. - Ex. 1048, Page 000008

Exhibit	Description
70	Spectra7 and Volex Announce Successful Demonstration of Industry Leading Performance for 800G Active Copper Interconnects Article, Feb. 6, 2024
71	Volex Website – Our Locations
72	Withdrawn
73	Volex's LinkedIn Post, Feb. 6, 2024
74	Volex 400G QSFP-DD AEC Data Sheet
75	Volex 400G QSFP112 AEC Data Sheet
76	Volex DAC Cable Assemblies Webpage
77	QSFP-DD Specification
78	QSFP112 Specification
79	Amphenol QSFP DD Copper Cable Assemblies Datasheet

Marvell Semiconductor, Inc. - Ex. 1048, Page 000009

LIST OF PHYSICAL EXHIBITS

Physical Exhibit	Description
1	Physical Sample of Exemplary Domestic Industry Product
2	Physical Sample of Exemplary Domestic Industry Product

Marvell Semiconductor, Inc. - Ex. 1048, Page 000010

LIST OF APPENDICES

Appx.	Description
A	Certified Copy of the Prosecution History of U.S. Patent No. 10,877,233
B	Certified Copy of the Prosecution History of U.S. Patent No. 11,012,252
C	Certified Copy of the Prosecution History of U.S. Patent No. 11,032,111
D	Copy of the Prosecution History of U.S. Provisional Application No. 62/723,701
E	Copy of the Prosecution History of Chinese Patent Application No. CN201910155535 (priority application for U.S. Patent No. 11,012,252)

Marvell Semiconductor, Inc. - Ex. 1048, Page 000011

I. INTRODUCTION

1. Complainant Credo Semiconductor Inc. is a United States company headquartered in San Jose, California, and a subsidiary of Complainant Credo Technology Group Ltd. (collectively, "Credo" or "Complainants"). Credo is the original pioneer in active electrical cables ("AEC") and performs significant work related to its AECs in California. Credo requests that the United States International Trade Commission institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("Section 337"), to remedy the unlawful importation into the United States, sale for importation into the United States, and/or sale within the United States after importation, of certain active electrical cables ("AEC") and components thereof (collectively referred to as "Accused Products") that infringe valid and enforceable United States patents owned by Credo.

2. The proposed Respondents are Amphenol Corporation, Molex, LLC, TE Connectivity PLC, and Volex PLC (collectively, "Respondents").[1] Respondents have engaged in unfair acts in violation of Section 337 through and in connection with the unlicensed importation into the United States, sale for importation into the United States, and/or sale within the United States after importation, of accused products that infringe one or more claims of United States Patent Nos. 10,877,233 (hereinafter, the "'233 patent"), 11,012,252 (hereinafter, the "'252 patent"), and 11,032,111 (hereinafter, the "'111 patent"), which are collectively referred to herein as the "Asserted Patents."

3. Credo asserts that Respondents directly infringe, contributorily infringe, and/or induce the infringement of at least the following claims of the Asserted Patents, with independent claims in bold:

Asserted Patent	Asserted Claims (Independent Claims in Bold)
U.S. Patent No. 10,877,233	**1**, 2-7, **8**, 9-14, **15**, 16-20
U.S. Patent No. 11,012,252	**1**, 2-5, **6**, 7-10, **11**, 12-14
U.S. Patent No. 11,032,111	**1**, 2-7, **8**, 9-10, **11**, 12-15, **16**, 17-19

[1] As noted elsewhere in this Complaint, "Respondents" refers to one or more of Amphenol Corporation, Molex, LLC, TE Connectivity PLC, and Volex PLC.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000012

4. Certified copies of the Asserted Patents accompany this Complaint as Exhibits 1–3. Certified copies of the prosecution histories of the Asserted Patents accompany this Complaint as Appendices A, B, and C. Copies of the prosecution histories of priority patent applications accompany this Complaint as Appendices D and E. Certified copies of the assignment records for the Asserted Patents accompany this Complaint as Exhibits 4-6.

5. As required by Section 337(a)(2) and defined by Section 337(a)(3), an industry in the United States exists relating to articles protected by the Asserted Patents. The domestic industry includes the significant domestic investments by Credo in plant and equipment, significant domestic employment of labor or capital, and the substantial domestic investment in the exploitation of the Asserted Patents.

6. Credo seeks a permanent limited exclusion order, pursuant to Section 337(d), excluding from entry into the United States Respondents' Accused Products that infringe one or more claims of the Asserted Patents. Credo also seeks permanent cease and desist orders, pursuant to Section 337(f), directing Respondents to cease and desist activities including, but not limited to, importing, marketing, advertising, demonstrating, warehousing inventory for distribution, offering for sale, selling, distributing, or using such Accused Products in the United States. Credo also seeks the imposition of a bond if Respondents continue to import infringing articles or sell infringing articles out of imported inventory during the 60-day Presidential review period, pursuant to 19 U.S.C. § 1337(j).

7. Since its founding in 2008, Credo has developed, created, and delivered to U.S. consumers a variety of high-speed wired connectivity solutions in the data infrastructure market, including its series of distinctive purple HiWire™ Active Electrical Cables ("AECs"). *See generally* Our Company, https://credosemi.com/company/ (last visited Mar. 6, 2025); HiWire Active Electrical Cables, https://credosemi.com/products/hiwire-aec/ (last visited Mar. 6, 2025). An exemplary HiWire™ Active Electrical Cable is depicted below.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000013



Ex. 8.

8. Given its focus on innovative wired connectivity solutions, Credo has built a portfolio of patent rights covering wired data connectivity and related technologies. *See, e.g.*, Businesswire, Credo Introduces 800G HiWire ZeroFlap AECs to Support AI Backend Networks, https://www.businesswire.com/news/home/20241010046982/en/ (last visited Mar. 6, 2025) (noting "Credo products are based on our proprietary Serializer/Deserializer (SerDes) and Digital Signal Processor (DSP) technologies," and "[o]ur intellectual property (IP) solutions consist primarily of SerDes IP licensing.").

9. Credo has a history of innovation and pioneering new technologies, allowing Credo to deliver best-in-class products and IP solutions, as evidenced by recently winning the Global Semiconductor Alliance's "Most Respected Emerging Public Semiconductor Company" Award. *See* Our Company, https://credosemi.com/company/ (last visited Mar. 6, 2025); Credo Wins GSA's "Most Respected Emerging Public Semiconductor Company" Award, https://credosemi.com/credo-wins-gsas-most-respected-emerging-public-

Marvell Semiconductor, Inc. - Ex. 1048, Page 000014

semiconductor-company-award/ (last visited Mar. 6, 2025). This award "honors semiconductor companies that demonstrate excellence in innovation, execution, and industry impact," and "highlights Credo's innovative contributions in delivering high-speed, energy-efficient connectivity solutions…." *Id.*

10. Credo's patented innovations enable the U.S. data infrastructure to meet the ever-growing need to transfer high volumes of data. Recently, new cloud workloads, increased video streaming, 5G wireless deployment, and the growing adoption of AI have created an explosion of data which is a challenge to handle efficiently using existing data infrastructure. *See* Our Company, https://credosemi.com/company/ (last visited Mar. 6, 2025). To meet this new demand for the transmission of vast amounts of data at increasingly higher speeds, Credo has developed its patented HiWire AEC technology.

II. COMPLAINANTS

11. Credo Semiconductor Inc. is a corporation organized and existing under the laws of the State of California and having a principal place of business at 110 Rio Robles, San Jose, California 95134. Credo Semiconductor Inc. is a subsidiary of Credo Technology Group Ltd.

12. Credo Technology Group Ltd. is a corporation organized and existing under the laws of the Cayman Islands and having a principal place of business at Ugland House, Grand Cayman, Cayman Islands KY1-1104.

13. Credo has committed significant U.S. investment in plant and equipment and significant employment of U.S. labor or capital, including investments at its San Jose, California facility where Credo engages in engineering, research and development, testing, and other activities designed to exploit the patented technology.

III. PROPOSED RESPONDENTS

14. Amphenol Corporation ("Amphenol") is a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at 358 Hall Avenue, Wallingford, Connecticut 06492. On information and belief, Amphenol is involved in the manufacture, development, sale for importation into the United States, importation into the United States, and/or sale after importation into the United States of the Accused Products.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000015

15. Molex, LLC ("Molex") is limited liability company organized and existing under the laws of the State of Delaware, having its principal place of business at 2222 Wellington Court, Lisle, Illinois 60532. On information and belief, Molex is involved in the manufacture, development, sale for importation into the United States, importation into the United States, and/or sale after importation into the United States of the Accused Products.

16. TE Connectivity PLC ("TE Connectivity") is a public limited company organized and existing under the laws of Ireland, having its principal place of business at Parkmore Business Park West, Parkmore, H91VN2T Ballybrit, Galway, Ireland. On information and belief, TE Connectivity is involved in the manufacture, development, sale for importation into the United States, importation into the United States, and/or sale after importation into the United States of the Accused Products.

17. Volex PLC ("Volex") is a public limited company organized and existing under the laws of the United Kingdom, having its principal place of business at Unit C1 Antura, Bond Close, Basingstoke, RG24 8PZ Hampshire, United Kingdom. On information and belief, Volex is involved in the manufacture, development, sale for importation into the United States, importation into the United States, and/or sale after importation into the United States of the Accused Products.

IV. THE TECHNOLOGY AND PRODUCTS AT ISSUE

18. The technologies at issue relate to Active Electrical Cables ("AECs"), such as high-speed Ethernet cables and components thereof. The AECs are used by data centers in the United States for enabling high-speed data transmission, for example, in server-to-server and other data distribution applications.

19. Pursuant to Commission Rules 210.12(a)(12) and 210.10(b)(1), the Accused Products are active electrical cables and components thereof. Active electrical cables are copper cables including a digital signal processor (DSP) or retimer. The Accused Products do not include active electrical cables and components thereof imported for use by Amazon Data Services, Inc. or its affiliates.

20. The Accused Products are sold for importation into, imported into, sold after importation into, and used within the United States by or on behalf of Respondents.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000016

21. Non-limiting examples of Accused Products for each Respondent include:

Respondent	Product
Amphenol	QSFP[2] Active Electrical Cables
	OSFP Active Electrical Cables
Molex	OSFP Active Electrical Cables[3]
	QSFP Active Electrical Cables[4]
TE Connectivity	QSFP Active Electrical Cables
	OSFP Active Electrical Cables
Volex	QSFP Active Electrical Cables
	OSFP Active Electrical Cables

This identification of exemplary models is intended for illustration and is not intended to limit the scope of the investigation. Further discovery is expected to reveal additional infringing products. Any remedy should extend to other Respondents' infringing products regardless of model number subject to any preexisting rights under the Asserted Patents previously granted to non-parties.

22. Articles imported for use by Amazon Data Services, Inc. or its affiliates, directly or indirectly, are not accused and are authorized and would not be subject to any requested remedial order. Credo agrees to work with U.S. Customs and Border Protection to facilitate an importer's use of a certification provision in any exclusion order to permit an importer to certify, to the best of its knowledge and belief, that such articles are not excluded under the exclusion order.

[2] References to OSFP or QSFP should be understood to include all variants thereof, *e.g.*, QSFP-DD.

[3] Molex's website, at https://www.molex.com/en-us/products/connectors/high-speed-pluggable-io/active-electrical-cables-aec, refers to this Accused Product as "AEC OSFP to OSFP."

[4] Molex's website, at https://www.molex.com/en-us/products/connectors/high-speed-pluggable-io/active-electrical-cables-aec, refers to this Accused Product as "AEC QSFP-DD to QSFP-DD."

Marvell Semiconductor, Inc. - Ex. 1048, Page 000017

V. THE ASSERTED PATENTS

A. The ’233 Patent

1. Identification of the Patent and Ownership

23. The ’233 patent, titled “Active Ethernet Cable with Preset Pre-Equalization,” was duly and legally issued on December 29, 2020. The ’233 patent issued from U.S. Patent Application No. 16/698,935, filed on November 27, 2019. *See* Ex. 1. According to patent term extensions and adjustments calculated by the USPTO, the patent is set to expire on November 27, 2039. The ’233 patent discloses a novel cable, a novel manufacturing method, and a novel communications method, employing preset transmit-side equalization to provide enhanced performance and/or to reduce receive-side equalization requirements.

24. Credo is the owner, by valid assignment, of the entire right, title, and interest in and to the ’233 patent. Prior to issuance, the ’233 patent inventors assigned all right, title, and interest in “Active Ethernet Cable with Preset Equalization” and “Applications” (including counterpart Chinese Patent Application No. 201910542576.3) and “Further Applications,” which includes U.S. Patent Application No. 16/698,935, to Credo. This assignment is recorded at the USPTO at Reel/Frame 051134/0419. *See* Ex. 4. The ’233 patent is valid, enforceable, and is currently in full force and effect.

25. In accordance with Rule 210.12(c) of the Commission’s Rules of Practice and Procedure, this Complaint is accompanied by Appendix A containing a certified copy of the prosecution history of the ’233 patent.

2. Non-Technical Description of the Patented Invention[5]

26. In non-technical terms, the ’233 patent relates to an advanced technology Ethernet cable, a manufacturing method, and a communications method employing preset transmit-side equalization to reverse the distortion imposed on a signal transmitted through the cable. As data rates increase, especially beyond 50 gigabits per second, transmitted signals are

[5] These descriptions and any other non-technical descriptions within this Complaint are for illustrative purposes only. Nothing in this Complaint is intended to express, either implicitly or explicitly, any position regarding the proper construction or scope of any claim of the Asserted Patents.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000018

more susceptible to channel attenuation, a weakening of the signal as it moves through the cable.

27. The ’233 patent describes how an Ethernet cable, using two data recovery and re-modulation (“DRR”) devices connected via electrical conductors, provides pre-equalization of electrical transit signals. The disclosed embodiments provide benefits such as increased performance for longer cables by more effectively withstanding attenuation and interference, thereby enabling consistently robust data transfer over extended cable lengths.

28. More specifically, the ’233 patent is directed, in some instances, to a cable comprising first and second DRR devices that exchange data streams with first and second host ports via a connector plug. These DRR devices convert between electrical signals and the data streams, provide pre-equalization of the electrical signals, and are connected by electrical conductors to convey the electrical signals between each DRR device. In other instances, the ’233 patent is directed to a cable manufacturing method that comprises connecting a first and second connector plug to a first and second DRR device and connecting electrical conductors to the first and second DRR devices. In another embodiment, the ’233 patent is directed to a communications method that comprises inserting the connector plugs connected to the DRR devices into host ports.

3. Foreign and Domestic Counterparts and Applications to the ’233 Patent

29. The following foreign patent(s) and/or patent application(s) correspond to the ’233 patent: CN112117606. *See* Ex. 7. Credo is aware of no other foreign counterparts or foreign or domestic counterpart applications corresponding to the ’233 patent that have been abandoned, denied, withdrawn, or which remain pending.

B. The ’252 Patent

1. Identification of the Patent and Ownership

30. The ’252 patent, titled “Active Ethernet Cable,” was duly and legally issued on May 18, 2021. The ’252 patent issued from U.S. Patent Application No. 16/539,910, which was filed on August 13, 2019. *See* Ex. 2. The ’252 patent claims priority to China Application No. CN201910155535.9, which was filed on March 1, 2019. According to patent term

Marvell Semiconductor, Inc. - Ex. 1048, Page 000019

extensions and adjustments calculated by the USPTO, the ’252 patent is set to expire on August 13, 2039. The ’252 patent discloses novel architectures and communication methods that enable mass-manufactured cables to perform robustly at per-lane PAM4 symbol rates up to 56 GBd and beyond.

31. Credo is the owner, by valid assignment, of the entire right, title, and interest in and to the ’252 patent. Prior to issuance, the ’252 patent inventors assigned all right, title, and interest in “Active Ethernet Cable” and “Applications” (including counterpart and priority Chinese Patent Application No. 201910155535.9) and “Further Applications,” which includes U.S. Patent Application No. 16/539,910, to Credo. This assignment is recorded at the USPTO at Reel/Frame 050042/0823. *See* Ex. 5. The ’252 patent is valid, enforceable, and is currently in full force and effect.

32. In accordance with Rule 210.12(c) of the Commission’s Rules of Practice and Procedure, this Complaint is accompanied by Appendix B containing a certified copy of the prosecution history of the ’252 patent and Appendix E containing a copy of the prosecution history of China Application No. CN201910155535.9.

2. Non-Technical Description of the Patented Invention

33. In non-technical terms, the ’252 patent relates to architectures and communication methods that enable mass-manufactured Ethernet cables to perform robustly at high speeds, specifically, per-lane PAM4 symbol rates up to 56 GBd and beyond. The ’252 patent describes how an Ethernet cable, using two transceivers that perform clock and data recovery and re-modulation, connected via electrical conductors, provides cable-independent equalization of electrical signals. The disclosed embodiments provide for more affordable, mass-manufactured ethernet cables that ensure robust data transfer performance at higher data transfer rates.

34. More specifically, the ’252 patent is directed to, for example, a cable having first and second transceivers that exchange data streams with first and second host devices via first and second connectors that plug into the respective host devices’ Ethernet ports. These transceivers convert between electrical signals and the data streams, provide fixed, cable-independent equalization for both the remodulation and clock and data recovery of the data

Marvell Semiconductor, Inc. - Ex. 1048, Page 000020

streams and of the electrical signals, respectively, and are connected by electrical conductors to convey the electrical signals between the transceivers. The ’252 patent is also directed to a cable manufacturing method that includes connecting first and second ends of a set of conductor pairs to first and second transceivers, the transceivers being configured to perform clock and data recovery, remodulation, and cable-independent equalization, and packaging the transceivers into first and second connector plugs. In another embodiment, the ’252 patent is directed to a communications method that includes, in a network cable having conductor pairs, electrically connecting a first connector to a second connector, performing the steps of receiving electrical signals and performing clock and data recovery and remodulation on the signals and data streams, wherein the data recovery and remodulation each employ cable-independent equalization.

3. Foreign and Domestic Counterparts and Applications to the ’252 Patent

35. The following foreign patent(s) and/or patent application(s) correspond to the ’252 patent: CN111641089A and CN111641089B. *See* Ex. 7. Credo is aware of no other foreign counterparts or foreign or domestic counterpart applications corresponding to the ’252 patent that have been abandoned, denied, withdrawn, or which remain pending.

C. The ’111 Patent

1. Identification of the Patent and Ownership

36. The ’111 patent, titled “SerDes Pre-Equalizer Having Adaptable Preset Coefficient Registers,” was duly and legally issued on June 8, 2021. The ’111 patent issued from U.S. Patent Application No. 16/552,927, filed on August 27, 2019. *See* Ex. 3. The ’111 patent claims priority to U.S. Provisional Application No. 62/723,701, which was filed on August 28, 2018. According to patent term extensions and adjustments calculated by the USPTO, the ’111 patent is set to expire on August 27, 2039. The ’111 patent discloses a novel “SerDes” (serializer-deserializer) architecture and communications method that together implement an efficient adaptation interface for transmitter pre-equalizers in a standards-suitable fashion.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000021

37. Credo is the owner, by valid assignment, of the entire right, title, and interest in and to the '111 patent. Prior to issuance, the '111 patent inventors assigned all right, title, and interest in "SerDes Pre-Equalizer Having Efficient Adaptation" and "Applications" (including U.S. Provisional Patent Application No. 62/723,701) and "Further Applications," which includes U.S. Patent Application No. 16/552,927, to Credo. The assignment is recorded at the USPTO at Reel/Frame 050720/0350. *See* Ex. 6. The '111 patent is valid, enforceable, and is currently in full force and effect.

38. In accordance with Rule 210.12(c) of the Commission's Rules of Practice and Procedure, this Complaint is accompanied by Appendix C containing a certified copy of the prosecution history of the '111 patent and Appendix D containing a copy of the prosecution history of U.S. Provisional Patent Application No. 62/723,701.

2. Non-Technical Description of the Patented Invention

39. In non-technical terms, the '111 patent relates to a novel SerDes architecture and communications method that implements an efficient adaptation interface for transmitter pre-equalizers in a standards-suitable fashion. A SerDes architecture allows for high-speed transmission of parallel signals by efficiently converting parallel input signals to a serial signal for easier transmission, then converting that serial signal back to parallel output signals to be used at the receiver. The '111 patent describes a communications method whereby a transceiver selects one of multiple registers to specify initial pre-equalizer coefficient values, updates those initial pre-equalizer values, and uses the updated values to convey a transmit data stream, thus guarding against distortion in the channel. The disclosed embodiments provide a more affordable and efficient adaptation interface for transmitter pre-equalizers in a standards-suitable fashion.

40. More specifically, the '111 patent is directed, for example, to a SerDes communications method whereby a transceiver selects one of multiple registers (each register corresponding to a different channel model) to specify initial pre-equalizer coefficient values, updates the initial pre-equalizer values during a training phase, and uses the updated values to convey a transmit data stream. The '111 patent is also directed to a chip-to-module communications link having a port connector coupling a port transceiver to a pluggable module

Marvell Semiconductor, Inc. - Ex. 1048, Page 000022

transceiver. The pluggable module transceiver includes one or more transmit filters to pre-equalize a serial symbol stream and a controller that uses multiple registers to set coefficient values for the filters. In some embodiments, the chip-to-module communications link's controller has multiple registers where each contains a set of initial coefficient values for which the port transceiver determines a performance characteristic. The controller then uses one of the registers selected by the port transceiver to specify the initial coefficient values for the one or more transmit filters.

3. Foreign and Domestic Counterparts and Applications to the '111 Patent

41. Credo is not aware of any foreign counterparts or any foreign or domestic counterpart applications corresponding to the '111 patent that have been abandoned, denied, withdrawn, or which remain pending.

VI. UNFAIR ACTS OF PROPOSED RESPONDENTS

A. Amphenol Corporation

42. Amphenol, via its acts specified herein concerning its active electrical cables (AECs) and components thereof ("the Accused Amphenol Products"), directly infringes, contributorily infringes, and/or induces the infringement of at least the Asserted Claims (identified above in Section I).

43. Amphenol manufactures, assembles, packages and tests, and/or purchases the Accused Amphenol Products outside the United States, specifically, at least in China and Vietnam. Amphenol then sells for importation, imports into, and/or sells within the United States after importation, the Accused Amphenol Products. Amphenol imports into the United States and/or sells within the United States after importation the Accused Amphenol Products, as described in more detail in Section VII.

44. By way of example, Amphenol[6] has violated Section 337 by importing, selling for importation, and/or selling in the United States after importation products infringing the Asserted Claims of the Asserted Patents and/or products made, produced, or processed under,

[6] Discovery is expected to reveal the precise role of Amphenol with respect to the supply chain of the Accused Amphenol Products.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000023

or by means of, a process covered by the Asserted Claims of the Asserted Patents. Claim charts demonstrating how the Accused Amphenol Products such as its OSFP and QSFP active electrical cables infringe exemplary asserted claims of the Asserted Patents are attached to the Complaint as Exhibits 34–36. Further discovery may reveal additional infringing products of Amphenol.

45. Amphenol had actual notice of the Asserted Patents as early as September 1, 2023, and no later than the filing date and/or time of service of this Complaint.[7] Ex. 9 (Credo September 1, 2023 letter to Amphenol identifying Asserted Patents).

46. Amphenol actively induces others, such as its distributors and customers, who are not licensed by Credo, to use and purchase the Accused Amphenol Products in the United States such that others directly infringe the Asserted Claims of the Asserted Patents. For example, Amphenol advertises and offers to sell the Accused Amphenol Products, provides materials and instructions to its distributors and customers on operation of the Accused Amphenol Products, demonstrates and uses the Accused Amphenol Products at U.S. trade shows, for example, at DesignCon in Santa Clara, California, and offers customer support for its Accused Amphenol Products, with the specific intent and knowledge that these materials and instructions direct, teach, or assist others in infringing the Asserted Patents. Ex. 10 (Amphenol website at https://www.amphenol-cs.com/product-series/osfp-cable-assemblies.html?utm_medium=cpc&utm_source=google&utm_term=osfp%20cable&utm_campaign=OSFP+Cable+Assemblies+-+USA&hsa_acc=4778648907&hsa_cam=20225967519&hsa_grp=152586083209&hsa_ad=660616634290&hsa_src=g&hsa_tgt=kwd-1248443655509&hsa_kw=osfp%20cable&hsa_mt=p&hsa_net=adwords&hsa_ver=3&gad_source=1&gclid=Cj0KCQiAs5i8BhDmARIsAGE4xHwtbPM00HBrb88_wctWBwv7AWSVoIZVLQ7JD1yrx0URFc_vzFmkpegaAl2FEALw_wcB, listing Accused Amphenol Products for

[7] Concurrently with the filing of this Complaint, paper copies of the Complaint and electronic copies of the Exhibits to the Complaint will be delivered to the Commission for each Proposed Respondent as well as additional paper copies of the Complaint for the foreign embassy of each foreign Respondent.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000024

sale, providing Accused Product data sheets, and offering customer support); Ex. 11 (Amphenol's LinkedIn post noting demonstrations of Accused Amphenol Products are available at Booth 833 of DesignCon 2023 in Santa Clara, California); Ex. 22 (Amphenol website at https://www.amphenol-cs.com/product-series/qsfp-dd-cable-assemblies.html, listing Accused Amphenol Products for sale, providing Accused Amphenol Product data sheets, and offering customer support). Other active steps by Amphenol include, but are not limited to, encouraging, advertising (including by internet websites), promoting, and instructing others to use and/or how to use the Accused Amphenol Products.

47. Amphenol also contributorily infringes certain Asserted Claims through its importation into the United States of components of the Accused Amphenol Products, constituting a material part of the Asserted Claims, knowing the same to be especially made or especially adapted for use in an infringement of the Asserted Patents, and not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, components of the Accused Amphenol Products, including associated cables and clock and data recovery processors, are specifically designed for use in infringement of the Asserted Claims. Due to their specific designs within the AECs, components of the Accused Amphenol Products do not have any substantial noninfringing uses.

B. Molex, LLC

48. Molex, via its acts specified herein concerning its active electrical cables (AECs) and components thereof ("the Accused Molex Products"), directly infringes, contributorily infringes, and/or induces the infringement of at least the Asserted Claims (identified above in Section I).

49. Molex manufactures, assembles, packages and tests, and/or purchases the Accused Molex Products outside the United States, specifically, at least in China. Molex then sells for importation, imports into, and/or sells within the United States after importation, the Accused Molex Products. Molex imports into the United States and/or sells within the United States after importation the Accused Molex Products as described in more detail in Section VII.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000025

50. By way of example, Molex[8] has violated Section 337 by importing, selling for importation, and/or selling in the United States after importation products infringing the Asserted Claims of the Asserted Patents and/or products made, produced, or processed under, or by means of, a process covered by the Asserted Claims of the Asserted Patents. Claim charts demonstrating how the Accused Molex Products such as its QSFP-DD AECs and OSFP active electrical cables infringe exemplary Asserted Claims of the Asserted Patents are attached to the Complaint as Exhibits 37–39. Further discovery may reveal additional infringing products of Molex.

51. Molex had actual notice of the Asserted Patents as early as September 1, 2023, and no later than the filing date and/or time of service of this Complaint. Ex. 12 (Credo September 1, 2023 letter to Molex identifying Asserted Patents).

52. Molex actively induces others, such as its distributors and customers, who are not licensed by Credo, to use and purchase the Accused Molex Products in the United States such that others directly infringe the Asserted Claims of the Asserted Patents. For example, Molex advertises and offers to sell the Accused Molex Products, provides materials and instructions to its distributors and customers on operation of the Accused Molex Products, demonstrates and uses the Accused Molex Products at U.S. trade shows, for example, at DesignCon in Santa Clara, California, presents podcasts regarding the Accused Molex Products, and offers customer support for its Accused Molex Products, with the specific intent and knowledge that these materials and instructions direct, teach, or assist others in infringing the Asserted Patents. Ex. 14 (Article noting and providing pictures of Accused Molex Products being demonstrated at the OCP Summit 2022 in San Jose, California); Ex. 15 (Molex's November 1, 2022 X post stating "Molex and QCT teamed up to build an ORV3 rack for Microsoft, complete with Molex AEC cables, and featured recently at the OCP Summit 2022."); Ex. 48 (Molex AEC chip partner article noting that Molex is showcasing the ORV3 rack [with AEC cables] at the OCP Summit 2022, Expo Hall, Booth B1). Other active steps by Molex include, but are not limited to, encouraging, advertising (including by internet

[8] Discovery is expected to reveal the precise role of Molex with respect to the supply chain of the Accused Molex Products.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000026

websites), promoting, and instructing others to use and/or how to use the Accused Molex Products.

53. Molex also contributorily infringes certain Asserted Claims through its importation into the United States of components of the Accused Molex Products, constituting a material part of the Asserted Claims, knowing the same to be especially made or especially adapted for use in an infringement of the Asserted Patents, and not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, components of the Accused Molex Products, the AECs, including associated cables and clock and data recovery processors, are specifically designed for use in infringement of the Asserted Claims. Due to their specific designs within the AECs, components of the Accused Products do not have any substantial noninfringing uses.

C. TE Connectivity PLC

54. TE Connectivity, via its acts specified herein concerning its active electrical cables (AECs) and components thereof ("the Accused TE Connectivity Products"), contributorily infringes, and/or induces the infringement of at least the Asserted Claims (identified above in Section I).

55. TE Connectivity manufactures, assembles, packages and tests, and/or purchases the Accused TE Connectivity Products outside the United States, specifically, at least in China. TE Connectivity then sells for importation, imports into, and/or sells within the United States after importation, the Accused TE Connectivity Products. TE Connectivity imports into the United States and/or sells within the United States after importation the Accused TE Connectivity Products, as described in more detail in Section VII.

56. By way of example, TE Connectivity[9] has violated Section 337 by importing, selling for importation, and/or selling in the United States after importation products infringing the Asserted Claims of the Asserted Patents and/or products made, produced, or processed under, or by means of, a process covered by the Asserted Claims of the Asserted Patents. Claim charts demonstrating how the Accused TE Connectivity Products such as its QSFP and OSFP

[9] Discovery is expected to reveal the precise role of TE Connectivity with respect to the supply chain of the Accused TE Connectivity Products.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000027

active electrical cables infringe exemplary Asserted Claims of the Asserted Patents are attached to the Complaint as Exhibits 40–42. Further discovery may reveal additional infringing products of TE Connectivity.

57. TE Connectivity had actual notice of the Asserted Patents as early as September 1, 2023, and no later than the filing date and/or time of service of this Complaint. Ex. 17 (Credo September 1, 2023 letter to TE Connectivity identifying Asserted Patents).

58. TE Connectivity actively induces others, such as its distributors and customers, who are not licensed by Credo, to use and purchase the Accused TE Connectivity Products in the United States such that others directly infringe the Asserted Claims of the Asserted Patents. For example, TE Connectivity advertises and offers to sell the Accused TE Connectivity Products, provides materials and instructions to its distributors and customers on operation of the Accused TE Connectivity Products, demonstrates and uses the Accused TE Connectivity Products at U.S. trade shows, for example, at DesignCon in Santa Clara, California, and offers customer support for its Accused TE Connectivity Products, with the specific intent and knowledge that these materials and instructions direct, teach, or assist others in infringing the Asserted Patents. Ex. 18 (video stills from https://www.youtube.com/watch?v=pJshfndNO0M&t=35s, showing TE Connectivity personnel demonstrating Accused TE Connectivity Products at the DesignCon 2023 trade show in Santa Clara, California); Ex. 19 (TE's website at https://www.te.com/en/product-2323765-1.html, listing Accused TE Connectivity Products for sale, providing Accused TE Connectivity Product data sheets, and offering customer support). Other active steps by TE Connectivity include, but are not limited to, encouraging, advertising (including by internet websites), promoting, and instructing others to use and/or how to use the Accused TE Connectivity Products.

59. TE Connectivity also contributorily infringes certain Asserted Claims through its importation into the United States of components of the Accused TE Connectivity Products, constituting a material part of the Asserted Claims, knowing the same to be especially made or especially adapted for use in an infringement of the Asserted Patents, and not a staple article or commodity of commerce suitable for substantial noninfringing use. For example,

Marvell Semiconductor, Inc. - Ex. 1048, Page 000028

components of the Accused TE Connectivity Products, the AECs, including associated cables and clock and data recovery processors, are specifically designed for use in infringement of the Asserted Claims. Due to their specific designs within the AECs, components of the Accused Products do not have any substantial noninfringing uses.

D. Volex PLC

60. Volex, via its acts specified herein concerning its active electrical cables (AECs) and components thereof ("the Accused Volex Products"), contributorily infringes, and/or induces the infringement of at least the Asserted Claims (identified above in Section I).

61. Volex manufactures, assembles, packages and tests, and/or purchases the Accused Volex Products outside the United States, specifically, at least in China and Indonesia. Volex then sells for importation, imports into, and/or sells within the United States after importation, the Accused Volex Products. Volex imports into the United States and/or sells within the United States after importation the Accused Volex Products, as described in more detail in Section VII.

62. By way of example, Volex[10] has violated Section 337 by importing, selling for importation, and/or selling in the United States after importation products infringing the Asserted Claims of the Asserted Patents and/or products made, produced, or processed under, or by means of, a process covered by the Asserted Claims of the Asserted Patents. Claim charts demonstrating how the Accused Volex Products such as its QSFP and OSFP active electrical cables infringe exemplary Asserted Claims of the Asserted Patents are attached to the Complaint as Exhibits 43–45. Further discovery may reveal additional infringing products of Volex.

63. Volex had actual notice of the Asserted Patents as early as September 1, 2023, and no later than the filing date and/or time of service of this Complaint. Ex. 68 (Credo September 1, 2023 letter to Volex identifying Asserted Patents).

64. Volex actively induces others, such as its distributors and customers, who are not licensed by Credo, to use and purchase the Accused Volex Products in the United States

[10] Discovery is expected to reveal the precise role of Volex with respect to the supply chain of the Accused Volex Products.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000029

such that others directly infringe the Asserted Claims of the Asserted Patents. For example, Volex advertises and offers to sell the Accused Volex Products, provides materials and instructions to its distributors and customers on operation of the Accused Volex Products, demonstrates and uses the Accused Volex Products at trade shows, and offers customer support for its Accused Volex Products, with the specific intent and knowledge that these materials and instructions direct, teach, or assist others in infringing the Asserted Patents. Ex. 69 (Volex website at https://www.volex.com/wp-content/uploads/2024/01/Volex-High-Speed-Copper-Interconnect-Solutions-Brochure.pdf, listing Accused Volex Products for sale, providing Accused Volex Products' specifications, and offering customer support); *see also* Ex. 70 (Article noting demos of Accused Volex Product were successful at DesignCon 2024 in Santa Clara, California). Other active steps by Volex include, but are not limited to, encouraging, advertising (including by internet websites), promoting, and instructing others to use and/or how to use the Accused Volex Products.

65. Volex also contributorily infringes certain Asserted Claims through its importation into the United States of components of the Accused Volex Products, constituting a material part of the Asserted Claims, knowing the same to be especially made or especially adapted for use in an infringement of the Asserted Patents, and not a staple article or commodity of commerce suitable for substantial noninfringing use. For example, components of the Accused Volex Products, the AECs, including associated cables and clock and data recovery processors, are specifically designed for use in infringement of the Asserted Claims. Due to their specific designs within the AECs, components of the Accused Volex Products do not have any substantial noninfringing uses.

VII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE

A. Amphenol Corporation

66. Amphenol, either itself or through subsidiaries or third parties acting on behalf of Amphenol, is engaged in the manufacture, importation, sale for importation, offer for sale after importation, sale, and/or use after importation into the United States of infringing AECs and components thereof. The Accused Amphenol Products are manufactured abroad and imported for sale into the United States.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000030

67. Amphenol manufactures, assembles, packages and tests, and/or purchases the Accused Amphenol Products outside the United States, specifically, at least in China and Vietnam. Ex. 20 (Article noting that Amphenol purchases Accused Amphenol Products or components thereof from its Chinese contract manufacturer, AEC producer Shenzen Woer Heat-shrinkable Material: "[t]he AEC products of Shenzhen Woer Heat-shrinkable Material are mainly produced by its subsidiary Letin Intelligent Connection, including … QSFP series; major clients include Amphenol Corporation from the USA."); Ex. 21 (Amphenol XGIGA Product Guide handed out at Amphenol's DesignCon 2025 booth in Santa Clara, California providing pictures of Amphenol's subsidiary, Amphenol XGIGA, designing and manufacturing Accused Amphenol Products in China and Vietnam).

68. Recent Panjiva[11] U.S. Import Database records and corresponding bills of lading identify importation by Amphenol of cables into the United States, which on information and belief includes AECs. *See* Ex. 26 at 2 (listing shipments from China and Taiwan to the U.S. of cable assemblies and connectors to Amphenol and its subsidiary); *see also* Ex. 64 at 2–7. On information and belief, the imported cable assemblies and connectors include the Accused Amphenol Products. Amphenol's importations into the United States further include infringing AEC components such as cables, processors, and connectors. *See id.*

69. Amphenol also sells for importation, sells after importation, and/or offers to sell after importation the Accused Amphenol Products in the United States. For example, publicly available information indicates that Amphenol offers to sell and actually sells the Accused Amphenol Products to data centers and other customers in the United States via direct sales, its website, distributors, and other sales channels. Ex. 10 (Amphenol website at https://www.amphenol-cs.com/product-series/osfp-cable-assemblies.html?utm_medium=cpc&utm_source=google&utm_term=osfp%20cable&utm_campaign=OSFP+Cable+Assemblies+-+USA&hsa_acc=4778648907&hsa_cam=20225967519&hsa_grp=152586083209&hsa_ad=6

[11] Panjiva is a global trade data analytics company providing (among other things) import details on commercial shipments to the United States. *See United States Trade Data,* Panjiva, https://panjiva.com/data/united-states-trade-data (last visited Mar. 6, 2025).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000031

60616634290&hsa_src=g&hsa_tgt=kwd-1248443655509&hsa_kw=osfp%20cable&hsa_mt=p&hsa_net=adwords&hsa_ver=3&gad_source=1&gclid=Cj0KCQiAs5i8BhDmARIsAGE4xHwtbPM00HBrb88_wctWBwv7AWSVoIZVLQ7JD1yrx0URFc_vzFmkpegaAl2FEALw_wcB, listing Accused Amphenol Products for sale, providing Accused Product data sheets, and offering customer support); Ex. 22 (Amphenol website at https://www.amphenol-cs.com/product-series/qsfp-dd-cable-assemblies.html, listing Accused Amphenol Products for sale, providing Accused Amphenol Product data sheets, and offering customer support).

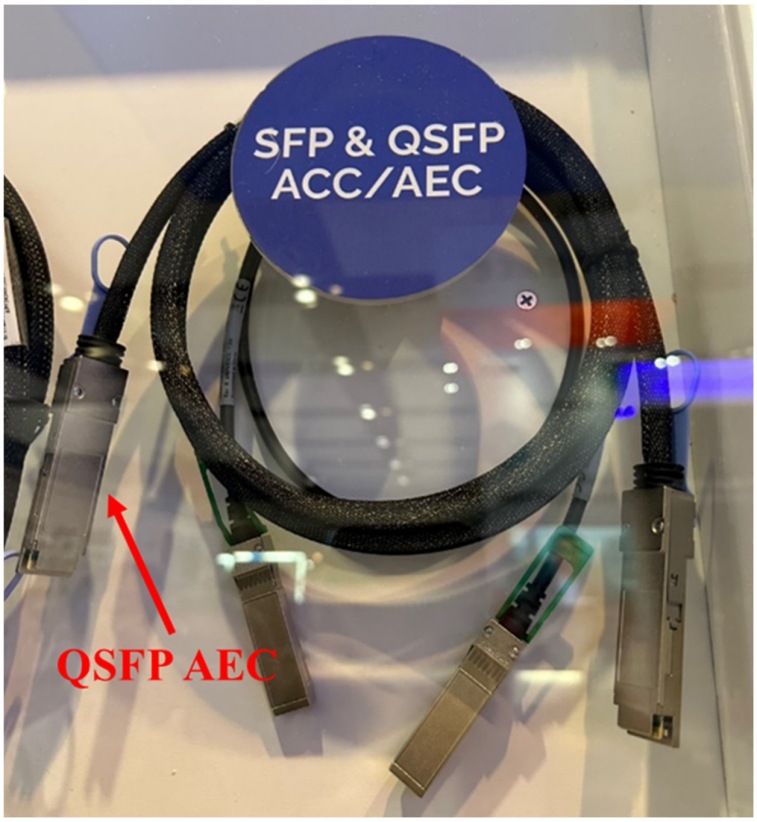
70. Amphenol has also provided in-person demonstrations of the Accused Amphenol Products, after importation into the United States, at the DesignCon annual trade show at the Santa Clara Convention Center in Santa Clara, California for at least the 2023, 2024, and 2025 trade shows. Ex. 11 (Amphenol's LinkedIn post noting demos of Accused Product are available at Booth 833 of DesignCon 2023 in Santa Clara, California). For example, on information and belief, Amphenol imported and displayed the Accused Amphenol Products at DesignCon 2024 in Santa Clara, California. Amphenol has also imported and displayed the Accused Amphenol Products at DesignCon 2025 in Santa Clara, California, as evidenced by the images below:

Marvell Semiconductor, Inc. - Ex. 1048, Page 000032



Ex. 24 at 2 (picturing Amphenol's booth signage at DesignCon 2025 in Santa Clara, California).

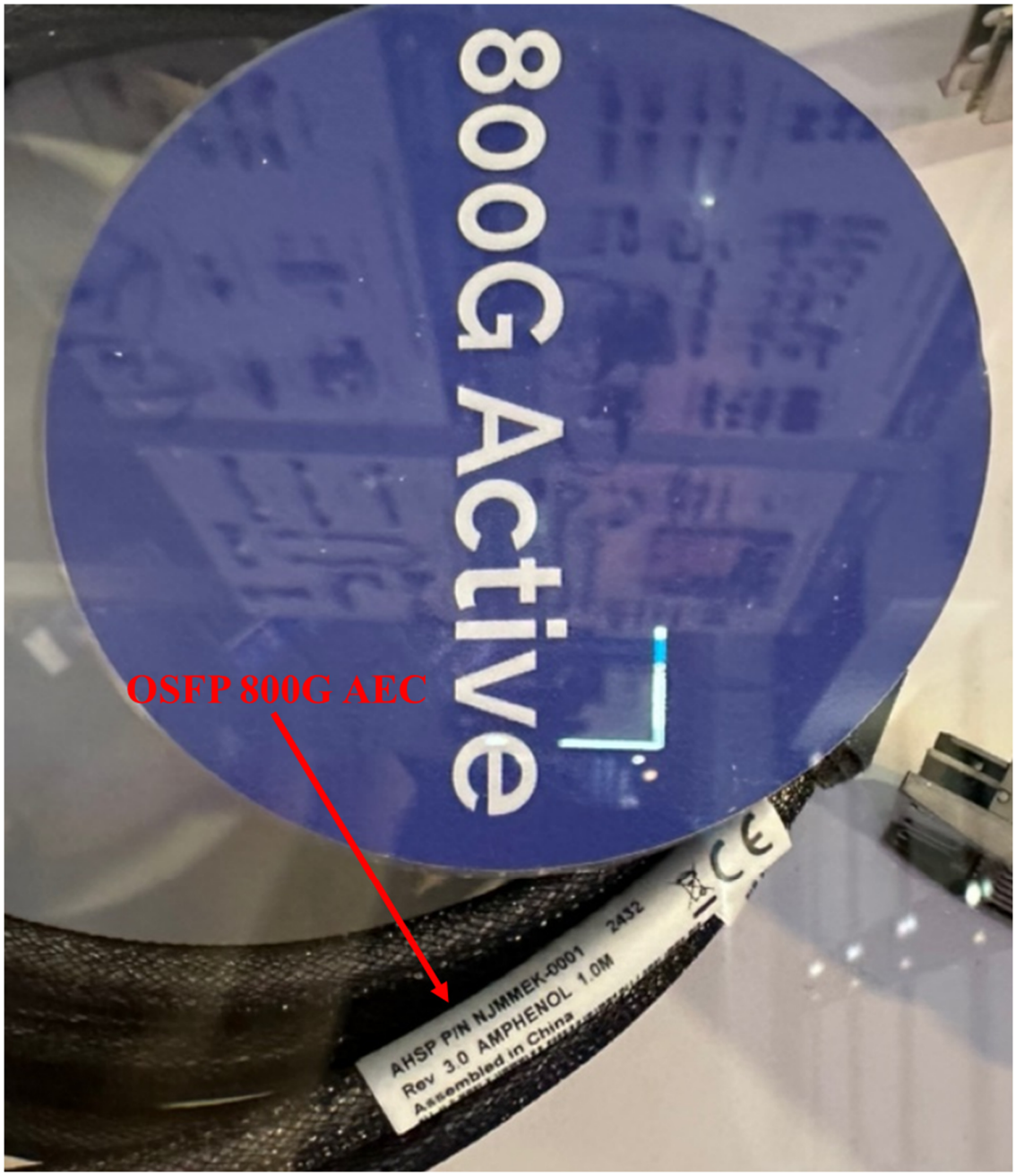
Marvell Semiconductor, Inc. - Ex. 1048, Page 000033



Ex. 24 at 3 (picturing Amphenol's display of Amphenol Accused Product at DesignCon 2025 in Santa Clara, California).

71. Amphenol's product labeling further demonstrates that Amphenol has sold for importation and/or imported the Accused Amphenol Products in the United States. For example, the product label images below show that the assembly of the Amphenol OSFP active electrical cables takes place in China.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000034



Ex. 24 at 4 (picturing Amphenol Accused Product label stating "Assembled in China" at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000035



Ex. 24 at 5 (picturing Amphenol Accused Product label stating "Assembled in China" at DesignCon 2025 in Santa Clara, California).

72. On information and belief, Amphenol has sold, offered to sell, imported, and continues to import other Accused Amphenol Products, such as OSFP and QSFP active

Marvell Semiconductor, Inc. - Ex. 1048, Page 000036

electrical cables. *Id.* at 3-5; *see also* Ex. 25 (showing Accused Product QSFP AEC for sale at Amphenol's website).

B. Molex, LLC

73. Molex, either itself or through subsidiaries or third parties acting on behalf of Molex, is engaged in the manufacture, importation, sale for importation, offer for sale after importation, sale, and/or use after importation into the United States of infringing AECs and components thereof. The Accused Molex Products are manufactured abroad and imported for sale into the United States.

74. Molex manufactures, assembles, packages and tests, and/or purchases the Accused Molex Products outside the United States, specifically, at least in China. Ex. 20 (Article noting that Molex purchases Accused Molex Products or components thereof from its Chinese contract manufacturer, AEC producer Shenzen Woer Heat-shrinkable Material: "[t]he AEC products of Shenzhen Woer Heat-shrinkable Material are mainly produced by its subsidiary Letin Intelligent Connection, including … QSFP series; major clients include … Molex from the USA.").

75. On information and belief, Molex's subsidiary, Dongguan Molex Interconnect Co., Ltd., manufactures the Accused Molex Products in China for importation into the U.S. Images of the Dongguan Molex Interconnect Co., Ltd. manufacturing facility are provided below.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000037



Ex. 16 (video stills from https://www.douyin.com/search/%E7%BE%8E%E5%9B%BD%E8%8E%AB%E4%BB%95%E8%BF%9E%E6%8E%A5%E5%99%A8%E7%AE%80%E4%BB%8B?modal_id=7142675489977650440) at 1.



Ex. 16 (video stills from https://www.douyin.com/search/%E7%BE%8E%E5%9B%BD%E8%8E%AB%E4%BB%95%E8%BF%9E%E6%8E%A5%E5%99%A8%E7%AE%80%E4%BB%8B?modal_id=7142675489977650440) at 2.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000038

76. Recent Panjiva U.S. Import Database records and corresponding bills of lading identify importation by Molex of active electrical cables into the United States from Dongguan Molex Interconnect Co., Ltd. and Molex China Ltd. *See* Ex. 26 at 4 (listing shipments from China to the U.S. of "cable w/plug transceiver" and "electric cable fitted with connectors" from Molex subsidiaries); *see also* Ex. 64 at 9–14. On information and belief, the cables with plug transceivers and electric cables fitted with connectors include the Accused Molex Products. Molex's importations into the United States further include infringing AEC components such as cables, processors, and connectors. *See id.*

77. Molex's SEC filings likewise indicate that most of its products are manufactured outside the United States. Ex. 63 at 10 (Molex's Form 10-K SEC filing indicating Molex manufactures abroad to reduce costs, stating "[w]e operate low-cost manufacturing centers in China, India, Malaysia, Mexico, Poland, the Philippines, Thailand and Vietnam to reduce our manufacturing costs and align our footprint with our customers' needs," and "[o]ur trend of fewer but larger factories, such as our one million square foot facility in Chengdu, China, provides increasing economies of scale and efficiencies.").

78. Molex also sells for importation, sells after importation, and/or offers to sell after importation the Accused Molex Products in the United States. For example, publicly available information indicates that Molex offers to sell and actually sells the Accused Molex Products to data centers and other customers in the United States via direct sales, its website, distributors, and other sales channels. Ex. 27 (Molex Accused Product Brief describing Accused Molex Products' features and offerings); Ex. 28 (Molex AEC chip partner article stating that the Accused Molex Products are sold to datacenters and quoting Molex's General Manager of I/O Solutions stating the Accused Molex Products will "deliver compelling business value [to datacenters]."); Ex. 29 (Article noting Molex's addition of Accused Molex Products to its product offerings).

79. Molex has also provided in-person demonstrations of the Accused Molex Products, after importation into the United States, for example, at the OCP Summit 2022 in San Jose, California. Ex. 14 (Article noting and providing pictures of Accused Molex Products being demonstrated in conjunction with Microsoft at the OCP Summit 2022); Ex. 15 (Molex's

Marvell Semiconductor, Inc. - Ex. 1048, Page 000039

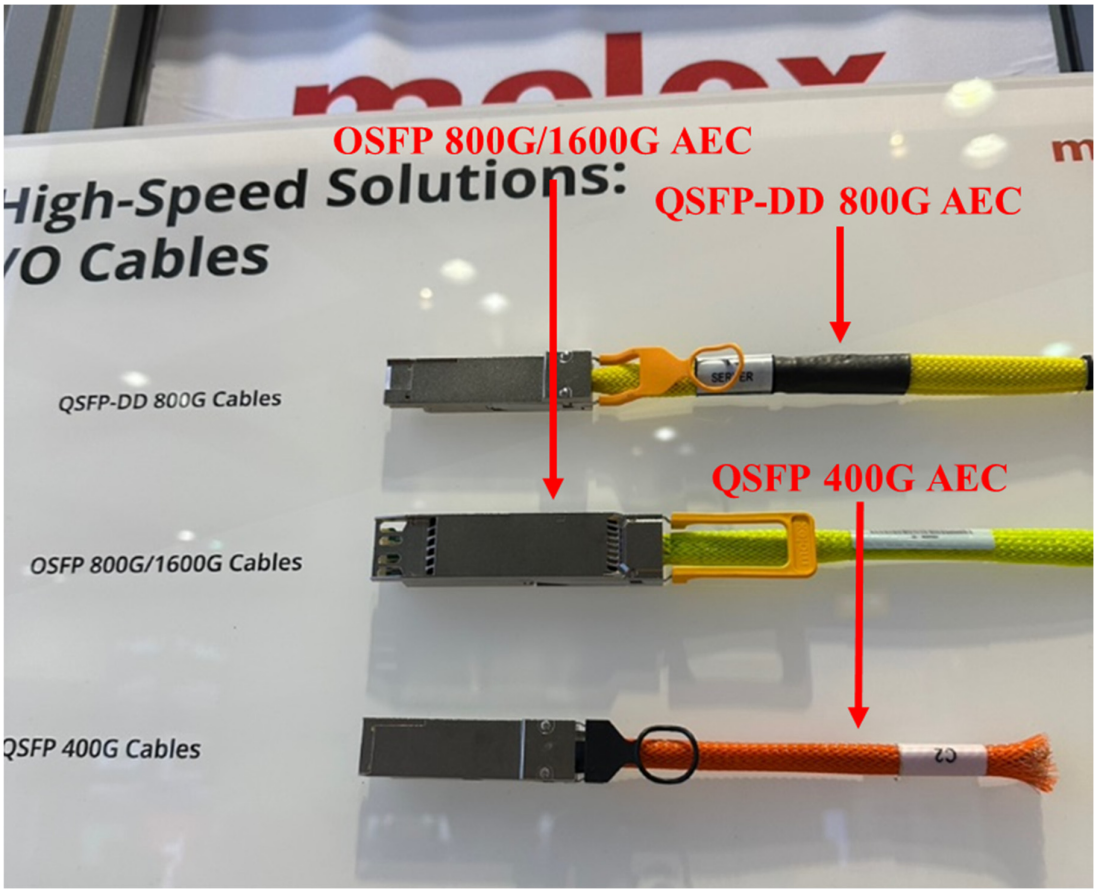
November 1, 2022 X post stating "Molex and QCT teamed up to build an ORV3 rack for Microsoft, complete with Molex AEC cables, and featured recently at the OCP Summit 2022."); Ex. 48 (Molex AEC chip partner article noting that Molex is showcasing the ORV3 rack [with AEC cables] at the OCP Summit 2022, Expo Hall, Booth B1).

80. As another example, Molex has also imported and displayed the Accused Molex Products at the DesignCon annual trade show at the Santa Clara Convention Center in Santa Clara, California, for at least the 2024 and 2025 trade shows. For example, on information and belief, Molex imported and displayed Accused Molex Products at DesignCon 2024 in Santa Clara, California. Molex has also imported and displayed the Accused Molex Products at DesignCon 2025 in Santa Clara, California, as evidenced by the images below:



Ex. 24 at 6 (picturing Molex's booth and signage at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000040



Ex. 24 at 7 (picturing Molex's display of Molex Accused Products at DesignCon 2025 in Santa Clara, California).

C. TE Connectivity PLC

81. TE Connectivity, either itself or through subsidiaries or third parties acting on behalf of TE Connectivity, is engaged in the manufacture, importation, sale for importation, offer for sale after importation, sale, and/or use after importation into the United States of infringing AECs and components thereof. The Accused TE Connectivity Products are manufactured abroad and imported for sale into the United States.

82. TE Connectivity manufactures, assembles, packages and tests, and/or purchases the Accused TE Connectivity Products outside the United States, specifically, at least in China. Ex. 20 (Article noting that TE Connectivity purchases Accused TE Connectivity Products or components thereof from its Chinese contract manufacturer, AEC producer Shenzen Woer Heat-shrinkable Material: "[t]he AEC products of Shenzhen Woer Heat-shrinkable Material

Marvell Semiconductor, Inc. - Ex. 1048, Page 000041

are mainly produced by its subsidiary Letin Intelligent Connection, including … QSFP series; major clients include … TE Connectivity from Ireland.").

83. Recent Panjiva U.S. Import Database records and corresponding bills of lading identify importation by TE Connectivity of cables into the United States, which on information and belief includes AECs. *See* Ex. 26 at 6 (listing shipment from China to the U.S. of cable assemblies to TE Connectivity); *see also* Ex. 64 at 16–18. On information and belief, the imported cable assemblies include the Accused TE Connectivity Products. TE Connectivity's importations into the United States further include infringing AEC components such as cables, processors, and connectors. *See id.*

84. TE Connectivity also sells for importation, sells after importation, and/or offers to sell after importation the Accused TE Connectivity Products in the United States. For example, publicly available information indicates that TE Connectivity offers to sell and actually sells the Accused TE Connectivity Products to data centers and other customers in the United States via direct sales, its website, distributors, and other sales channels. Ex. 19 (TE Connectivity website at https://www.te.com/en/product-2323765-1.html, listing Accused Products for sale, providing Accused Product data sheets, and offering customer support).

85. TE Connectivity has also displayed and provided in-person demonstrations of the Accused TE Connectivity Products, after importation into the United States, at the 2023 and 2024 DesignCon trade shows at the Santa Clara Convention Center in Santa Clara, California. Ex. 18 (video stills from https://www.youtube.com/watch?v=pJshfndNO0M&t=35s showing TE Connectivity personnel demonstrating Accused TE Connectivity Products at the DesignCon 2023 trade show in Santa Clara, California); Ex. 31 at 7, 12, and 18 (Interoperability demonstration showing use of TE Connectivity's Accused Product).

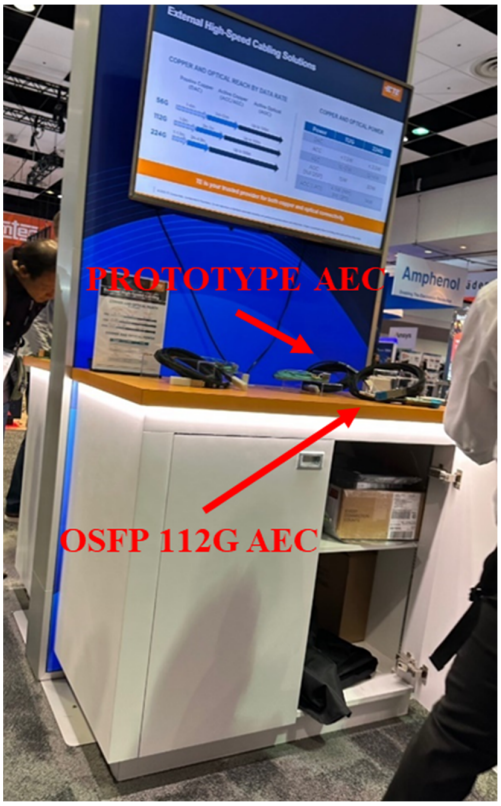
86. As another example, TE Connectivity has also imported and displayed the Accused TE Connectivity Products at the 2025 DesignCon annual trade show at the Santa Clara Convention Center in Santa Clara, California, as evidenced by the images below:

Marvell Semiconductor, Inc. - Ex. 1048, Page 000042



Ex. 24 at 8 (picturing TE Connectivity's booth and signage at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000043



Ex. 24 at 9 (picturing TE Connectivity's display of Accused TE Connectivity Products at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000044



Ex. 24 at 10 (picturing TE Connectivity's display of TE Connectivity Accused Products at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000045



Ex. 24 at 11 (picturing TE Connectivity's display of Accused TE Connectivity Products at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000046



Ex. 24 at 12 (picturing TE Connectivity's display of Accused TE Connectivity Products at DesignCon 2025 in Santa Clara, California).

Marvell Semiconductor, Inc. - Ex. 1048, Page 000047



Ex. 24 at 13 (picturing Accused TE Connectivity Product label at DesignCon 2025 in Santa Clara, California).

87. TE Connectivity's product labeling further demonstrates that TE Connectivity has sold for importation and/or imported the Accused TE Connectivity Products in the United States. For example, the product label image below shows that the assembly of TE Connectivity's active electrical cables takes place in China.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000048



Ex. 24 at 14 (picturing Accused TE Connectivity Product label stating "MADE IN CHINA" at DesignCon 2025 in Santa Clara, California).

88. TE Connectivity has sold, imported, and continues to import other Accused TE Connectivity Products, such as the QSFP active electrical cables.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000049

D. Volex PLC

89. Volex, either itself or through subsidiaries or third parties acting on behalf of Volex, is engaged in the manufacture, importation, sale for importation, offer for sale after importation, sale, and/or use after importation into the United States of infringing AECs and components thereof. The Accused Volex Products are manufactured abroad and imported for sale into the United States.

90. Volex manufactures, assembles, packages and tests, and/or purchases the Accused Volex Products outside the United States, specifically, at least in China and Indonesia. Ex. 71 (Volex website at https://www.volex.com/who-we-are/our-locations/, listing its manufacturing locations, all of which are outside the United States, and four of which are in China and Indonesia); Ex. 20 (Article noting that Volex purchases Accused Volex Products or components thereof from its Chinese contract manufacturer, AEC producer Shenzen Woer Heat-shrinkable Material: "[t]he AEC products of Shenzhen Woer Heat-shrinkable Material are mainly produced by its subsidiary Letin Intelligent Connection, including … QSFP series; major clients include … Volex from the United Kingdom[.]").

91. Recent Panjiva U.S. Import Database records and corresponding bills of lading identify importation by Volex of cables into the United States, which on information and belief includes AECs. *See* Ex. 26 at 8 (listing shipments from China and Indonesia to the U.S. of data cables, cables with connectors, data cable assemblies, and data center assemblies to Volex); *see also* Ex. 64 at 20–28. On information and belief, the imported data cables, cables with connectors, and data cable assemblies include the Accused Volex Products. Volex's importations into the United States further include infringing AEC components, such as cables, processors, and connectors. *See id.*

92. Volex also sells for importation, sells after importation, and/or offers to sell after importation the Accused Volex Products in the United States. For example, publicly available information indicates that Volex offers to sell and actually sells the Accused Volex Products to data centers and other customers in the United States via direct sales, its website, distributors, and other sales channels. Ex. 69 (Volex website at https://www.volex.com/wp-content/uploads/2024/01/Volex-High-Speed-Copper-Interconnect-Solutions-Brochure.pdf

Marvell Semiconductor, Inc. - Ex. 1048, Page 000050

listing Accused Volex Products for sale, noting warehouses in the United States, and identifying the United States as a country for which Volex provides sales and support); Ex. 73 (Volex LinkedIn post offering the Accused Volex Products for sale).

93. Volex has also provided in-person demonstrations of the Accused Volex Products, after importation into the United States, at the DesignCon trade show at the Santa Clara Convention Center in Santa Clara, California. For example, Volex has displayed Accused Volex Products at DesignCon 2024 in Santa Clara, California. Ex. 70 (Article noting demonstrations of Accused Volex Product were successful at DesignCon 2024 in Santa Clara, California).

VIII. CLASSIFICATION UNDER THE HARMONIZED TARIFF SCHEDULE

94. The Accused Products fall within at least the following classifications of the Harmonized Tariff Schedule ("HTS") of the United States: 8517.62.00, 8517.62.00.90, 8544.42, and 8544.11, including machines for the transmission of data, insulated copper cables, and insulated cables fitted with connectors. The identified HTS numbers are intended to be for illustration only and are not exhaustive of the products accused of infringement in this Complaint. The HTS numbers are not intended to limit the scope of the Investigation.

IX. LICENSEES

95. Credo's disclosure pursuant to Commission Rule 210.12(a)(9)(iii) is included in Confidential Exhibit 32C.

X. DOMESTIC INDUSTRY

96. As required by Section 337(a)(2) and defined by Section 337(a)(3), a domestic industry exists in the United States in connection with articles covered by the Asserted Patents.

A. Technical Prong

97. Credo's HiWire AECs, for example, the CLOS AEC series of products (including the 800G CLOS OSFP to OSFP AEC, the 800G CLOS QSFP-DD to QSFP-DD AEC, and the 400G CLOS QSFP112 to QSFP112 AEC), the SPAN AEC series of products (including the 800G SPAN OSFP to OSFP AEC and the LP 400G SPAN QSFP-DD to QSFP-DD AEC), the SHIFT AEC series of products (including the 400G SHIFT QSFP112 to 2xQSFP112 AEC and the 800G SHIFT OSFP to 2xQSFP112 AEC), and the SWITCH AEC

Marvell Semiconductor, Inc. - Ex. 1048, Page 000051

series of products (including the LP 100G SWITCH QSFP28 to 2xQSFP28 AEC) (collectively, "Domestic Industry Products"), practice one or more claims of each of the Asserted Patents. Claim charts demonstrating how representative Domestic Industry Products are covered by an exemplary claim of each of the Asserted Patents and thus satisfy the technical prong of the domestic industry requirement under Section 337(a)(2), are attached as Exhibits 65–67. Credo may further demonstrate satisfaction of the technical prong of the domestic industry requirement through other claims of the Asserted Patents.

B. Economic Prong

98. A domestic industry, under subparts (A) and (B) of Section 337(a)(3), exists by virtue of Credo's significant U.S. investment in plant and equipment and significant employment of U.S. labor or capital, including through engineering, research and development, testing, and other activities designed to exploit the patented technology.

99. In the United States, Credo occupies nearly 90,000 square feet in its facilities in San Jose, California.

100. Additionally, Credo employs more than 200 employees in the United States—including many engineers, scientists, researchers, and technicians who work on the Domestic Industry Products. In addition to the engineers dedicated to the Domestic Industry Products, some of these engineers are dedicated to the development of DSP technology, including firmware and architecture, primarily used for the Domestic Industry Products. Credo's DSPs are used in the Domestic Industry Products, which accounts for a significant portion of Credo's overall revenue. *See* Ex. 33C, ¶ 4. Due to the efforts of these individuals, over the past several years, Credo's U.S. inventors have been awarded more than a dozen United States patents for market-leading innovations in active wired data connectivity technology.

101. Credo has incurred and continues to incur substantial costs associated with domestic activities it undertakes in relation to the Domestic Industry Products. While Credo's investments span a variety of activities that are necessary to run a successful American business (including sales and marketing), Credo invests domestically in high-value activities, including research, development, engineering, design, assembly, testing, repair, technical support,

Marvell Semiconductor, Inc. - Ex. 1048, Page 000052

logistics, distribution, sales, and marketing—all with respect to the Domestic Industry Products.

1. Credo's Significant Investment in Plant and Equipment

102. Credo has invested and continues to invest in facilities and equipment that house and enable activities directed to the Domestic Industry Products. *See* Ex. 33C, ¶¶ 6-8. As explained above, this investment in plant and equipment is critical to Credo's continued development of Domestic Industry Products and sales of those products in the United States.

103. Credo invests in its San Jose in the United States and makes significant financial investments in rent and operations for that facility. *See id.*, ¶¶ 7-8.

104. Credo is headquartered at its facilities in San Jose, California, at 110 Rio Robles (pictured below). These facilities include nearly 90,000 square feet dedicated to Credo employees. Among other things, Credo uses the San Jose facilities for research, development, engineering, design, testing, and repair for the Domestic Industry Products. *See id.*

Credo Facility at 110 Rio Robles



105. Credo's campus in San Jose contains four laboratories where the Domestic Industry Products are tested by engineers in a continuous effort to improve its products. Those

Marvell Semiconductor, Inc. - Ex. 1048, Page 000053

laboratories comprise more than 16,000 square feet of space in the San Jose facility. *See id.* It also used these laboratories during the qualification and validation processes. In addition, these laboratories are used for experimentation and testing of innovative technologies and designs before they are incorporated into the Domestic Industry Products. Furthermore, some of the engineering, testing, and development work done in these labs is done to address issues that arise in the field, including problems or challenges faced by Credo's customers.

106. Furthermore, the remainder of Credo's nearly 90,000 square foot San Jose facility is dedicated to other functions that support the design, development, marketing, and sales of the Domestic Industry Products, including research and development on other aspects of the Domestic Industry Products, marketing, sales, and product operations, among other things.

107. Credo has also made substantial financial investments in equipment to develop the Domestic Industry Products. *See id.*, ¶ 9.

2. Credo's Significant Investment in Employment of Labor or Capital

108. Credo has employed and continues to employ domestic labor and capital in the United States in relation to the Domestic Industry Products. In particular, Credo employs more than 200 individuals in the United States—most of whom work on the Domestic Industry Products in some fashion. *See id.*, ¶10. For example, leadership for Credo's AEC Marketing, AEC Operation, AEC Application and Software teams are based in San Jose, California. Credo's Chief Technology Officer is also based in San Jose and works with a group of seven employees. These groups include employees who work on research and development for the Domestic Industry Products. This work includes (a) product design and/or engineering; (b) product prototyping; (c) product quality assurance, testing, and/or reliability; and (d) product strategy, planning, and/or commercialization. *See id.*, ¶¶ 10-14.

109. Credo has also employed significant capital in relation to the Domestic Industry Products over the past two years, including for R&D expenses such as tools and supplies, as well as testing and assembly work. *See id.*, ¶ 14.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000054

3. Credo's Investments Are Significant and Substantial

110. Credo's investments in plant and equipment, its employment of labor or capital, and its investments in research, development, and engineering are significant and substantial, both qualitatively and quantitatively. In particular, Credo engages in activities that are by their nature significant and substantial to the United States economy, to the consumer market for AECs in the United States, to Credo's business, and to the Domestic Industry Products. These investments include high-value contributions to the Domestic Industry Products such as (1) product design, (2) product development, (3) development of next-generation technology, (4) quality engineering, (5) sales, (6) product validation, testing, auditing, and qualification, (7) warranty and repair activities, and (8) customer services and satisfaction. Credo's investments are also significant and substantial to its business. *See id.*, ¶¶ 15-17.

111. In sum, Credo has made significant financial investments in plant, equipment, labor, capital, engineering, research, and development under Section 337(a)(3) with respect to Domestic Industry Products over the last approximately two years. Credo's investments reflect significant and substantial value added to the Domestic Industry Products, during the product development phase, during testing and certification phase, and after the products are launched. Credo's continuous efforts to perfect its products through continued testing and product refinement is one of the primary reasons Credo has achieved its reputation for excellence in the field of AEC technology.

XI. RELATED LITIGATION

112. The Asserted Patents are not and have not been the subject of any prior court or agency litigation or any arbitration. To Credo's knowledge, the Proposed Respondents' unfair methods of competition and unfair acts, as alleged in the Complaint, or the subject matter thereof, are not and have never been, the subject of any other court, tribunal, or agency litigation, foreign or domestic, or any arbitration. In conjunction with the filing of this Complaint, Complaints are also being filed in the United States District Courts for the Eastern District of Texas and District of Delaware regarding each of the Proposed Respondents' infringement of the Asserted Patents.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000055

XII. REQUESTED RELIEF

113. WHEREFORE, by reason of the foregoing, Credo respectfully requests that the United States International Trade Commission:

(a) Institute an immediate investigation, pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to violations of Section 337 based on Respondents' unlawful importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of certain active electrical cables and components thereof that infringe one or more claims of United States Patent Nos. 10,877,233; 11,012,252; and 11,032,111;

(b) Schedule and conduct a hearing on the unlawful acts and, following the hearing, determine that there has been a violation of Section 337;

(c) Issue a permanent limited exclusion order, pursuant to Section 337(d) of the Tariff Act of 1930, as amended, excluding from entry into the United States all of Respondents' certain active electrical cables and components thereof that infringe one or more claims of United States Patent Nos. 10,877,233; 11,012,252; and 11,032,111 except the provisions of any limited exclusion order shall not apply to active electrical cables and components thereof that are imported for the use of Amazon Data Services, Inc. or its affiliates;

(d) Issue permanent cease and desist orders, pursuant to Section 337(f) of the Tariff Act of 1930, as amended, directing each Respondent to cease and desist from the importation, marketing, advertising, demonstrating, warehousing inventory for distribution, sale and use of certain active electrical cables and components thereof that infringe one or more claims of United States Patent Nos. 10,877,233; 11,012,252; and 11,032,111 except the provisions of any cease and desist order shall not apply to active electrical cables and components thereof that are imported for the use of Amazon Data Services, Inc. or its affiliates;

Marvell Semiconductor, Inc. - Ex. 1048, Page 000056

(e) Impose a bond upon each Respondent to the extent it continues to import infringing articles during the 60-day Presidential Review Period per 19 U.S.C. § 1337(j); and

(f) Grant such other and further relief as the Commission deems just and proper based on the facts determined by the investigation and the authority of the Commission.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000057

Respectfully submitted,

Dated: March 18, 2025

/s/ Richard A. Sterba
Ruffin B. Cordell
Richard A. Sterba
Brian J. Livedalen
Joseph M. Sinopoli
FISH & RICHARDSON P.C.
1000 Maine Ave. SW
Washington, DC 20024
Telephone: (202) 783-5070
Fax: (202) 783-2331

Daniel H. Wade
FISH & RICHARDSON P.C.
One Marina Park Drive, Suite 1700
Boston, MA 02210
Telephone: (617) 542-5070
Fax: (617) 542-8906

Kathryn A. Quisenberry
Jacqueline T. Moran
FISH & RICHARDSON P.C.
909 Fannin Street, Suite 2100
Houston, TX 77010
Telephone: (713) 654-5300
Fax: (713) 652-0109

Counsel for Complainants Credo Semiconductor Inc. and Credo Technology Group Ltd.

Marvell Semiconductor, Inc. - Ex. 1048, Page 000058

VERIFICATION OF COMPLAINT

I, Don Barnetson, declare, in accordance with 19 C.F.R. §§ 210.4 and 210.12(a), under penalty of perjury under the laws of the United States of America, that the following statements are true and correct:

1. I am the Senior Vice President of Product at Credo Semiconductor Inc., and I am duly authorized to sign this Amended Complaint on behalf of Complainants;

2. I have read the foregoing Amended Complaint and am aware of its contents;

3. To the best of my knowledge, information, and belief, based upon reasonable inquiry, the foregoing Amended Complaint is well-founded in fact and is warranted by existing law or by a nonfrivolous argument for the extension, modification, or reversal of existing law or the establishment of new law;

4. The allegations or other factual contentions allegations and other factual contentions have evidentiary support or, if specifically so identified, are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery; and

5. The foregoing Amended Complaint is not being filed for any improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the investigation or related proceeding.

Dated: March 18, 2025

